

CLAIMS

1. A plastic screw closure intended for sealing a bottle with a threaded bottle neck having an outside diameter (D), an inside diameter (d), a thickness ($\frac{1}{2}|D - d|$) defined therebetween, an upper outer edge, and an inner surface, said screw closure, before being secured on the bottle
5 neck to which said closure is to be applied, comprising:

a top plate portion which is substantially in the form of a circular disc;

10 a substantially cylindrical peripheral portion extending from said top plate portion, said peripheral portion having a substantially cylindrical bead, adjacent said top plate portion, and a screwthread adapted to cooperate with the threaded bottle neck;

15 a substantially cylindrical deformable sealing strip extending axially from said top plate portion inward of said bead and having a free end and an inside diameter ($2r_2$) which is smaller than the outside diameter (D) of the threaded bottle neck; and

20 a substantially cylindrical sealing olive extending axially from said top plate portion inward of said deformable sealing strip and having, at least at a portion substantially opposite said free end of said deformable sealing strip, an outside diameter ($2R_1$) greater than the inside diameter (d) of the threaded bottle neck (10), said top plate portion having a reduce thickness t , defining a weakened annular portion, between said sealing olive and said sealing strip.

25 2. The plastic screw closure according to claim 1, wherein a first deviation is less than a second deviation, said first deviation defined by the absolute difference between said outside diameter ($2R_1$) of said sealing olive and the inside diameter (d) of the bottle neck, and said second deviation defined by the absolute difference between said inside diameter ($2r_2$) of the sealing strip and the outside diameter (d) of the bottle neck.

30 3. The plastic screw closure according to claim 2, wherein a ratio between said first and second deviations is at least 1:2.

4. The plastic screw closure according to claim 2, wherein a ratio between said first and second deviations is from about 1:3 to about 1:5.

5. The plastic screw closure according to claim 1, wherein a spacing ($r_2 - R_1$) between said sealing strip and the sealing olive is less than half the thickness of the bottle neck in the region in which said closure comes into sealing engagement with the bottle neck.

10. The plastic screw closure according to claim 1, wherein a spacing ($r_2 - R_1$) between said sealing strip and the sealing olive is less than two thirds the thickness of the bottle neck in the region in which said closure comes into sealing engagement with the bottle neck.

15. The plastic screw closure according to claim 1, wherein said sealing olive includes, on an outside wall thereof, a shallow bead with a cross-section of an obtuse-angled triangle.

20. The plastic screw closure according to claim 7, wherein said sealing olive at its free end, extends in cross-section in a rounded-off and/or beveled configuration which permits said sealing olive to be urged radially inwardly upon axial movement of said screw closure onto the bottle neck.

25. The plastic screw closure according to claim 1, wherein said sealing strip extends in a rounded-off and/or beveled configuration which permits said sealing strip to be urged radially outwards upon axial movement of said screw closure onto the bottle neck.

30. The plastic screw closure according to claim 1, wherein deviations in shape between said substantially cylindrical sealing olive and said substantially cylindrical sealing strip are substantially limited to an outside wall of said sealing olive and an inside wall of said sealing strip.

11. The plastic screw closure according to claim 10, wherein said inside wall of said sealing strip and said outside wall of said sealing olive extend substantially parallel over the greater part of the axial length of the sealing strip.

12. The plastic screw closure according to claim 1, wherein the axial length of said sealing olive is greater than the axial length of the sealing strip by at least 50 percent.

5 13. The plastic screw closure according to claim 1, wherein the axial length of said sealing olive is greater than the axial length of the sealing strip by at about 100 percent.

14. The plastic screw closure according to claim 1, wherein the mean thickness of said sealing olive (3) is at least twice the thickness of said sealing strip.

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15. The plastic screw closure according to claim 1, wherein said closure is produced in one piece from a homogenous material.

16. The plastic screw closure according to claim 14, wherein said closure is produced in one piece from a homogenous material.

17. The plastic screw closure according to claim 1, wherein said peripheral portion at a lower edge includes an anti-tamper and tear-off band.

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18. The plastic screw closure according to claim 1, wherein said surface diameter ($2R_i$) of said bead is smaller than the sum of the outside diameter (D) of the bottle neck and double the thickness of said sealing strip.

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19. The plastic screw closure according to claim 1, wherein said bead at lower portion thereof transitions substantially horizontal into said cylindrical peripheral portion.

20. A plastic screw closure intended for sealing a bottle with a threaded bottle neck (10) having an outside diameter (D), an inside diameter (d), a thickness ($\frac{1}{2}|D - d|$) defined therebetween, an upper outer edge, and an inner surface, said screw closure, before being secured on the bottle

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neck to which said closure is to be applied, comprising:

a top plate portion (2) which is substantially in the form of a circular disc;

5 a substantially cylindrical peripheral portion (1) extending from said top plate portion, said peripheral portion having a screwthread (8) adapted to cooperate with the threaded bottle neck and a substantially cylindrical bead (5) adjacent said top plate portion; said bead at a lower portion thereof transitions substantially horizontal into said cylindrical peripheral portion and is adapted to engage the threaded bottle neck;

10 a substantially cylindrical deformable sealing strip (4) extending axially from said top plate portion (2) inward of said bead and having an inside diameter ($2r_2$) which is smaller than the outside diameter (D) of the thread bottle neck; and

15 a substantially cylindrical sealing olive (3) extending axially from said top plate portion (2) inward of said deformable sealing strip (4) and having, at least at a portion substantially opposite said deformable sealing strip, an outside diameter ($2R_1$) greater than the inside diameter (d) of the threaded bottle neck (10).

20 21. The plastic screw closure according to claim 20, wherein said top plate portion has a reduced thickness t , defining a weakened annular portion, between said sealing olive and said sealing strip.

25 22. The plastic closure according to claim 20, wherein said threaded bottle neck (10) includes a thread 11 having substantially horizontally extending terminal end portion (26) and said substantially cylindrical bead (5) engages said terminal end portion when said closure is screwed onto said bottle neck.